

What is claimed is:

1 A method of manufacturing magnetic disks comprising a magnetic layer, a protective layer, and a lubricating layer on a substrate, in which

a lubricant *alpha* comprising a compound denoted by chemical formula

[Chem. 1]

$\text{HO-CH}_2\text{-CH(OH)-CH}_2\text{-O-CH}_2\text{-CF}_2\text{(-O-C}_2\text{F}_4\text{)}_p\text{(O-CF}_2\text{)}_q\text{-O-CF}_2\text{-CH}_2\text{-O-CH}_2\text{-CH(OH)-CH}_2\text{-OH}$

wherein *p* and *q* are natural number,

and a compound denoted by chemical formula

[Chem. 2]

$\text{HO-CH}_2\text{-CF}_2\text{(-O-C}_2\text{F}_4\text{)}_m\text{(O-CF}_2\text{)}_n\text{-O-CF}_2\text{-CH}_2\text{-OH}$

wherein *m* and *n* are natural number,

is fractionated by molecular weight to prepare a lubricant *a* having a weight average molecular weight (Mw) of from 3,000 to 7,000 and a molecular weight dispersion of less than or equal to 1.2;

a lubricant *beta* comprising a compound denoted by the chemical formula

[Chem. 3]

$\text{HO-CH}_2\text{-CF}_2\text{(-O-C}_2\text{F}_4\text{)}_m\text{(O-CF}_2\text{)}_n\text{-O-CF}_2\text{-CH}_2\text{-OH}$

wherein *m* and *n* are natural number,

is fractionated by molecular weight to prepare a lubricant *b* having a weight average molecular weight (Mw) of from 2,000 to 5,000 and a molecular weight dispersion of less than or equal to 1.2;

a lubricant *c* comprising a mixture of lubricants *a* and *b* is prepared; and

a film of lubricant *c* is formed on a protective layer provided on a substrate to form a lubricating layer.

2 The method of manufacturing magnetic disks of claim 1, wherein the fractionation by molecular weight is conducted by supercritical extraction.

3 The method of manufacturing magnetic disks of claim 1 or 2, wherein lubricant *c* is prepared by obtaining a composition A of lubricant *a* dispersed in a fluorine-base solvent, obtaining

a composition B of lubricant *b* dispersed in a fluorine-base solvent, mixing compositions A and B, and extracting lubricant *c* from the mixed composition.

4 The method of manufacturing magnetic disks of any of claims 1 to 3, wherein after forming the lubricating layer, the resultant magnetic disk is exposed to an atmosphere of from 50 to 150°C to adhere lubricant *c* to the protective layer.

5. The method of manufacturing magnetic disks of any of claims 1 to 4, wherein the protective layer is formed by plasma CVD.

6 The method of manufacturing magnetic disks of any of claims 1 to 5, employed for load-unload system magnetic disk devices.

7 The method of manufacturing magnetic disks of any of claims 1 to 6, wherein Fomblin Ztetraol (product name) made by Solvay Solexis is selected as lubricant *alpha* and Fomblin Zdol (product name) made by Solvay Solexis is selected as lubricant *beta*.

8 A magnetic disk comprising a magnetic layer, a protective layer, and a lubricating layer on a substrate, in which the lubricating layer has been formed on the protective layer, said lubricating layer being comprised of a lubricant *c*,

comprising a lubricant *a* having a weight average molecular weight (Mw) of from 3,000 to 7,000 and a molecular weight dispersion of less than or equal to 1.2 obtained by refining a lubricant *alpha* comprising the compound denoted by the chemical formula

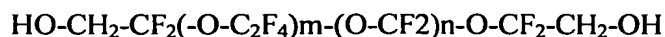
[Chem. 4]

HO-CH₂-CH(OH)-CH₂-O-CH₂-CF₂(-O-C₂F₄)_p-(O-CF₂)_q-O-CF₂-CH₂-O-CH₂-CH(OH)-CH₂-OH

wherein p and q are natural number,

and a compound denoted by chemical formula

[Chem. 5]

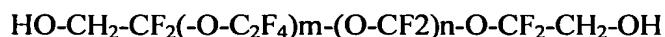


wherein m and n are natural number,

and a lubricant *b* having a weight average molecular weight (Mw) of from 2,000 to 5,000

and a molecular weight dispersion of less than or equal to 1.2, comprising a lubricant *beta* comprising a compound denoted by chemical formula

[Chem. 6] .

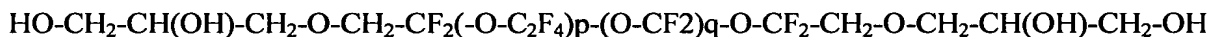


wherein m and n are natural number.

9 A magnetic disk comprising a magnetic layer, a protective layer, and a lubricating layer on a substrate, in which

the lubricating layer has been formed on the protective layer, said lubricating layer comprising a compound denoted by the chemical formula

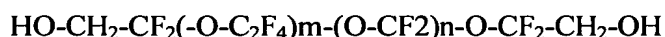
[Chem. 7]



wherein p and q are natural number,

and a compound denoted by the chemical formula

[Chem. 8]



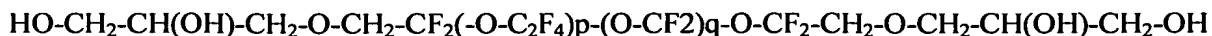
wherein m and n are natural number,

and the lubricating layer contains -COOH atomic groups detectable by time of flight secondary ion mass spectrometry.

10 A magnetic disk comprising a magnetic layer, a protective layer, and a lubricating layer on a substrate, in which the lubricating layer comprises:

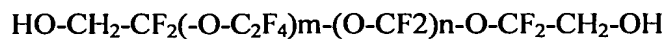
a compound denoted by the chemical formula

[Chem. 9]



wherein p and q are natural number,
a compound denoted by the chemical formula

[Chem. 10]



wherein m and n are natural number,
and a compound having in its molecular structure -COOH atomic group detectable by time of flight secondary ion mass spectrometry.

11 The magnetic disk of any of claims 8 to 10, wherein the protective layer is a carbon-base protective layer.